

Notice of Allowability

Application No.

10/715,135

Examiner

Pia F. Tibbits

Applicant(s)

TAKANO ET AL.

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ The drawings filed on 12 March 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 3/12/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

This Office action is in answer to the application filed 11/18/2003.

Allowable Subject Matter

1. Claims 1-14 are allowed.

With regard to claims 1-11: none of the references of record prior to applicant's filing date discloses, teaches, or suggests a battery charger for charging a secondary battery comprising, *inter alia*, a controller that determines an estimated time level from among plurality of different estimated time levels that indicate how much time is required for the secondary battery to reach a full charge based on a temperature signal and a voltage signal both output when the secondary battery is at a precharge state.

With regard to claims 12-13: none of the references of record prior to applicant's filing date discloses, teaches, or suggests a battery charger for charging a secondary battery comprising, *inter alia*, a controller that a controller that calculates a temperature gradient within a predetermined time interval based on a temperature signal, determines whether the secondary battery is on the verge of a full charge or the secondary battery has reached a charge based on the temperature gradient, and further determines an estimated time level from among a plurality of different estimated time levels that indicate how much time is required for the secondary battery to reach a full charge based on whether the secondary battery is on the verge of the full charge or the secondary battery has reached the full charge.

With regard to claim 14: none of the references of record prior to applicant's filing date discloses, teaches, or suggests a battery charger for charging a secondary battery comprising, *inter alia*, a controller that a controller that calculates a voltage gradient within a predetermined time interval based on a voltage signal, determines whether the secondary battery is on the verge of a full charge or the secondary battery has reached a full charge based on the voltage gradient, and further determines an estimated time level from among a plurality of different estimated time levels that indicate how much time is required for the secondary battery to reach a full charge based on whether the secondary battery is on the verge of the full charge or the secondary battery has reached the full charge.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is (571) 272-2086. If unavailable, contact the Supervisory Patent Examiner Mike Sherry whose telephone number is (571) 272-2084. The Technology Center Fax number is (703) 872-9306.

3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

June 29, 2005

Pia Tibbits

Primary Patent Examiner

